NASA Briefs

Goldin to keynote climate conference

NASA Administrator Daniel S. Goldin will deliver the keynote address at "Tilting the Balance, Climate Variability and Water Resource Management in the Southwest," a conference to be held at the University of Texas at El Paso, March 2-4. The conference is part of an in-depth investigation of regional climate variability and its effect on the availability and quality of water resources critical to the region. Rep. Silvestre Reyes, D-Texas, and 10 other members of Congress will co-chair the event. The goal of the conference is to provide farmers, ranchers, industry leaders, planners, utility managers and others whose livelihoods are affected by climate change with practical information about climate variations and how they can affect regional decision making.

Children may send names to Mars

NASA invites children of all ages to send their name to Mars. On December 3, 1999 the Mars Polar Lander will enter the Martian atmosphere encased in a protective shell and traveling at hypersonic speed. Its parachute will open and it will rendezvous with the planet's surface at a predetermined spot within 500 miles of the Martian south pole. NASA has created a website to collect 1 million names of school children from around the world, and combine these names on a CD-ROM that is going to be included in the payload of the Mars Polar Lander. To join the program and have their names added to the CD-ROM, children should fill out the form on the website at: http://spacekids.hq.nasa.gov/mars/details.html

First major X-33 piece at Palmdale

NASA and Lockheed Martin saw their X-33 technology demonstrator move from drawing board to plant floor as the first major flight component arrived at the Lockheed Martin Skunk Works vehicle assembly facility in Palmdale, Calif. The liquid oxygen tank design is one of a number of challenging technology areas that are key to the X-33, including the vehicle's two cutting-edge composite liquid hydrogen tanks, two linear aerospike engines, a rugged metallic thermal protection system and advanced avionics systems, all of which will be arriving at Palmdale during the coming year. Assembly is to be completed in late spring 1999, with the first flight in July 1999.

Space Center Houston offers learning camps

During the month of March, Space Center Houston is offering several Spring Break Day Camps for children ages 5-14. The camps will be offered in a hands-on, educational environment covering a wide variety of subjects:

• Rocket Engine-uity—March 9 and 16: This camp is designed for 8-11 year olds and will investigate Sir Isaac Newton and his three laws of physics through rocket activities. Students will explore the aerodynamics of launch vehicles while building a rocket to launch in NASA's Rocket Park (weather permitting). Children can take home their rocket and a book about rockets and space flight.

• Mission: Space Mobilization—March 10 and 17: Students 8-11 years old can be a special agent on an exploration mission. Teams of children will have the opportunity to design and build an exploratory space vehicle using LEGOs bricks. Once built, the vehicle will be used to explore and investigate an unknown planet. Campers will discover robots, why they are vital to the space program and will take home a space book and a LEGOs vehicle.

• Space Crafts and What Planet Are You From—March 11 & 18: Children 5-7 years old will create a UFO from scratch, fly a paper rocket toward a target, and travel through the solar system to learn about their favorite planet. They will design a spacesuit for an adventure into the solar system, create their own solar system necklace and take home two space books.

• If It Suits You—March 12 and 19:Campers will explore the actual spacesuits of the astronauts and discover how they train for space walks. This workshop is designed for children 8-11, and will explore and discover how the vacuum of space affects the astronauts. Participants will meet a scientist who designs space suits and can take home a picture of themselves wearing a spacesuit and a space suit poster.

• Aviation Adventure - March 13 and 20: Students 12-14 years old can explore some of the challenges that pilots and astronauts encounter. Campers will build and launch a model space shuttle rocket and will conduct experiments related to Bernoulli's principles.

Day camp prices range from $45 to $65 each and include all materials and lunch. For registration applications and additional information on any of Space Center Houston Day Camps call 244-2148 or 244-2131.

JSDC Photo by Benny Benavides

RETIREMENT PARTY—Joseph Atkinson Jr. of JSC's Equal Opportunity Programs Office, accepts a plaque from former Astronaut Bernard Harris and his daughter, Alex. The plaque, a collage of pictures of the nine groups of astronauts Atkinson helped to select between 1978-1996, was in recognition of his 49 years of service. Music was supplied by the Texas State University jazz ensemble.

Robot competitors face off next week

Beach balls will be flying in all directions March 5-7 at Space Center Houston as robots compete against one another in the Southwestern Regional Tournament of the FIRST Foundation. The JSC community is invited to come out and see the fun.

FIRST (For Inspiration and Recognition of Science and Technology) is an educational foundation that conducts an annual series of regional and national tournaments in which robots built by teams of high school students and their industrial sponsors compete against one another to score points in a unique game-type setting.

This is the seventh year of FIRST competitions, and each year's game is different. This year's game requires the student-controlled robots to pick up beach balls and place them in scoring positions along ladder-like structures within a 35-foot competition arena, while attempting to prevent others from scoring. Andy Allen, retired astronaut and president of the FIRST Foundation, was instrumental in working with JSC and Space Center Houston to bring the tournament to Houston.

The JSC-Clear Creek ISD team will be competing against as many as 20 other teams from around the country, including JSC-mentored teams from Houston ISD and Pasadena ISD.

March 5 will feature team practice sessions, while seeding rounds will be held March 6, and the final competition will be held Saturday morning, March 7.

STS-95 commander to focus on science

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Feb. 13 following NASA Administrator Daniel S. Goldin's announcement that Glenn would be making his second space flight.

Joining Brown, an Air Force lieutenant colonel, and Glenn on *Discovery* will be Pilot Steven Lindsey, an Air Force major, and Mission Specialists Scott Parazynski, M.D.; Stephen Robinson, Ph.D.; and Pedro Duque, as well as Payload Specialist Chiaki Mukai, M.D., Ph.D.

The 10-day flight will support a variety of research payloads including deployment of the Spartan solar-observing spacecraft, the Hubble Space Telescope Orbital Systems Test Platform, and investigations on space flight and the aging process. The primary objectives of STS-95 are to deploy the Spartan spacecraft for two days of free flight during which it will study the Sun's corona, and to conduct research with the Hubble Space Telescope Orbital Systems Test Platform and the International Extreme Ultraviolet Hitchhiker-3 payloads. The Spartan spacecraft was previously carried on board the STS-87 mission in November but did not activate properly following its deployment from the shuttle.

The bulk of questions posed during the news conference related to Glenn's participation in the flight and whether any special accommodations are being made because of his age.

Brown said Glenn will be a full working member of the crew with assignments in the Spacehab module and middeck that deal primarily with aging research, including experiments that will look at the effects of space flight on sleep, the body's internal clock, and protein turnover and processing. Glenn also will be ingesting a variety of hormones to test their effect on his body during space flight.

"My job is to make sure the science we have manifested on STS-95 gets done," Brown said. "I have a very qualified crew to do that. We're excited about the flight, we're excited to fly with Sen. Glenn. It is a great honor for us, but my job is to get the science done."

"I'm here to be a member of this crew and work with everybody else," Glenn added. "I'll be doing some of the experiments myself. I'll be backing up some of the other people. I'm here as a working crew member, and that's it."

Brown said Mukai's selection for the crew preceded Glenn's. Parazynski, also a physician, added that the shuttle will be carrying its standard medical kit, with no additions.

Glenn, whose training began last week with familiarization briefings on the shuttle, launch and entry suits and a run in the centrifuge at Brooks Air Force Base, San Antonio, said he is impressed with the advancements that have been made since his seminal flight. He said the shuttle has an "amazing safety record" and he's confident in the vehicle and its support.

"Its been a rigorous week, but it's been exhilarating, too, and I've loved every minute of it. I even enjoyed the centrifuge run yesterday. This is just a start. We'll be training all this year and I'm looking forward to learning everything we need to know to really get the best return out of this flight," Glenn said. "The Mercury spacecraft could be tucked away in one little corner of the payload bay," Glenn said. "Back 36 years ago today, I didn't get out and float in the cockpit-there wasn't any place to float to. Here, you'll be able to get out and do things, conduct basic research and you don't have to stay in the seat to do that, in fact you have to get out of the seat to do that."

STS-95 will mark Brown's fifth space flight, and his second as commander. He flew on STS-47 in 1992, STS-66 in 1994, STS-77 in 1996, and STS-85 in August 1997.

STS-95 will be the second flight for both Lindsey and Robinson. Lindsey flew on *Columbia* in November/December 1997. Robinson was a member of the STS-85 crew. Parazynski will be making his third flight, after STS-66 in 1994 and STS-86 in 1997.

Duque, a member of the 1996 astronaut class, will be making his first space flight. Selected by the European Space Agency in 1992, he was the alternate payload specialist for STS-78 in 1996. Mukai will be making her second journey into space during STS-95. She flew previously as a payload specialist on STS-65 in July 1994.

School open house to follow construction

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and mathematics curriculum. Possibilities for educational program development are still in the planning stages.

School officials are planning a public open house when construction is complete, with JSC employees invited to attend. In announcing the effort last June, Abbey said he expects JSC to work with the school to teach its students about the importance of engineering and science and what it means to them in terms of potential careers.

The school will house grades 6, 7 and 8, and may also be used as a magnet for science, math and engineering students throughout the school district. A final decision on the name of the school has not been made yet.

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Thomas settling in on new home

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Thomas said he and his Mir 25 Commander Talgat Musabayev and Flight Engineer Nikolai Budarin have been talking a lot as they work together in the Priroda module. The ability to communicate both technically and socially is important, he said, but so far interaction with his Mir crew mates is going well.

"We spend a lot of time together in a confined space, not just working as professionals, but around the dinner table and this environment here and talking about things and sharing experiences of the day, and looking out the window and observing things together, so you obviously want to be able to have a discourse together and talk freely about things, and we're doing that," Thomas said. "We're getting there."

Thomas said he has activated a number of the experiments, but the one he finds most captivating is the growth of cellular tissue in a bioreactor, an attempt to grow human cancer cells in an artificial environment.

"It's going to take a long time to do this of course, because the growth process is very slow, but so far indications are that it's going quite well and we're quite pleased," Thomas said.

The Mir-24 crew of Commander Anatoly Solovyev and Flight Engineer Pavel Vinogradov returned home last week after 198 days in space. They were joined by French researcher Leopold Eyharts, who spent three weeks doing experiment work.

On Feb. 20, Mir 25 Commander Talgat Musabayev, Flight Engineer Nikolai Budarin and Thomas were congratulated on the 12th anniversary of the launch of the Mir's Core Module in 1986. They then boarded their Soyuz TM-27 craft and backed away from Mir. Musabayev manually flew the spacecraft back to a smooth docking with Mir, freeing the Kvant-1 port for the Progress resupply craft redocking to Mir late Monday morning. It had been in a parking orbit since Jan. 30.

Thomas has completed four weeks on Mir since becoming a station crew member Jan. 25. He is scheduled to return to Earth in early June aboard Space Shuttle *Discovery* during the STS-91 docking mission to the Mir.

He is the seventh and final NASA astronaut scheduled to live and work aboard Mir.

NASA-JSC